The Air Line Pilot

March, 1957

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Caravelle

(See Back Cover)

Blueprinting Tomorrow's ATC

In Order To Take Care Of Future Demands, We Must Proceed At Once To Modernize Our Present Air Traffic Control System And Airports

By Edward P. Curtis

Special Assistant To President Eisenhower For Aviation Facilities Planning

Even with the aircraft we have flying today—military jets and our piston driven civil fleet—our traffic control system is a bottleneck under instrument conditions and many airports are often inadequate to handle today's traffic. It does not take much imagination to visualize what will happen in a few short years as aircraft increase in numbers and performance, and turbine driven planes begin to replace present equipment, if vigorous action is not taken at once to modernize and expand our ground installations.

If there were any lingering doubts in our minds about just how much trouble we are in, we have only to read almost any national magazine or newspaper to find some aspect of it being presented. In fact, you cannot help but wonder why it is that in the face of generally adverse publicity and predictions of disaster, more and more people buy tickets on airlines and more and more aircraft continue to demand a place in our skies. The answer, I think, is simple and a tribute to the inherent soundness of the aviation picture. In spite of delays and cancellations, under adverse weather conditions, most of the time the vast majority of our aircraft get where they are going on time and their passengers enjoy comfort and luxury. In spite of occasional tragic accidents, the overall picture of air safety is a good one and the record compares favorably with other forms of transportation. This is, of course, no ground for complacency nor does it minimize the urgent necessity for modernization and improvement of our present system, but in our preoccupation with what is wrong, we should not forget the amazing accomplishments which have already been made.

Aviation's Impact On Economy

As one indication of the impact of aviation on our entire economy, I want to quote a few figures which are significant. It is presently estimated that the overall U. S. capital investment in aviation is approximately $100 billion and rising rapidly as expensive new equipment is being bought by the airlines and business as a whole. The total number of employees in the aircraft manufacturing industry as of October 1956 was over 839,000. U. S. civil aircraft alone in 1956 purchased 1,678 million gallons of aviation gasoline with which they averaged 34,000 flying hours per day. The military, of course, added many thousands of additional hours to this total. As of July, 1956, also there were 63,042 active aircraft in the civil fleet of which about 1,300 belonged to the domestic airlines. The balance are used by what we call general aviation and includes everything from large, well equipped multi-engine corporate owned aircraft down to the light twins and single engine jobs. The 30,000 military aircraft account for many thousands of aircraft flights which must find their place in our skies.

Future Traffic

These impressive figures give some indication of the size and complexity of our present problem. But what are we facing in the next twenty years in terms of numbers and types of aircraft and the facilities necessary to move them safely and expeditiously through the air and handle them on the ground? To try to find the best answer to this question we have the most competent outside experts we could find studying the present facts and the factors most likely to influence the future. Much of this information was already available from existing Government and industry sources, but a surprising amount was not. When our contractors finish this job in another couple of months, we feel we will have the most complete, documented requirements picture it is possible to get and it will be in a form which will be readily useful. Our purpose in doing this very extensive study is, of course, two-fold. The information on types and numbers of our future aircraft is vital in designing an adequate traffic control system and from the same data we expect to be able to give airport operators a reasonably accurate estimate of the volume and type of traffic they should provide for in the next twenty years. This will be in the form of detailed studies in typical large, medium, and small traffic hubs which should be applicable to any community of comparable size and complexity.

This work is not yet complete and the present estimates are subject to further review, but some preliminary

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figures will be interesting to you. In studying the common carrier fleet, for example, we find that currently 57 per cent carry 40 or fewer passengers and 43 per cent are 40 to 80 passenger aircraft. With the exception of 55 Viscounts, all are reciprocating engine powered.

By 1962, we estimate that 68 per cent of the fleet will carry 40 to 90 or more passengers and that of the total fleet, 25 per cent of the passenger trunk-line fleet will still be reciprocating engine powered, and 75 per cent will be turbine powered.

By 1975, 90 per cent of the passenger trunk-line fleet will be turbine powered of which about 40 per cent will be large jet transports with a seating capacity of 90 or more. The total number of aircraft in the common carrier class will probably not increase much in the next twenty years, but larger and faster planes will generate a tremendous increase in passenger miles flown and the number of takeoffs and landings will increase correspondingly.

In New York, for example, the airlines alone accounted for 475,000 takeoffs and landings in 1956. We expect this to gradually increase to about 650,000 by 1975 and this pattern will probably typify the nation-wide growth of common carrier activity. Up to this point we have not discussed the vast segment of general aviation. Here accurate statistics are much more difficult to get and forward estimates are consequently less reliable. All the present indications are, however, that in this field we will face a much greater rate increase in numbers of aircraft and aircraft movements perhaps in the neighborhood of four times the 1956 figures by 1975. So far as military aircraft are concerned, we would expect a gradual decrease in numbers over the years as various types of missiles are developed and put to use.

Performance Characteristics

As to performance characteristics, the the present piston engine airline fleet has a range of cruising speed between 150 and 300 knots and flies generally at altitudes from 5,000 to 22,000 feet. The turbo-prop air transports of the 60's and 70's will cruise at about 350 knots between 10,000 and 25,000 feet. The new turbo-jet fleet of the Boeing 707 and the Dauglas DC-8 types will cruise at 450-550 knots between 20,000 and 35,000 feet. Before 1975, it will be technically possible to design and build supersonic transports, but present indications are that their operating costs will be substantially higher than the present subsonic types. If a supersonic transport should appear by 1975, it will probably fly at speeds of Mach 2-2.5 at altitudes of about 55,000 feet.

Sometime during this period at least a prototype of a nuclear-powered aircraft will undoubtedly be developed. Although it presumably could have almost unlimited cruising range, it is difficult, at present, to assess its potential in the civil aviation field. Due to the many complex problems in the safe operation of the nuclear power plant itself it is certain that aircraft of this type when and if they appear will have to be handled under very special conditions certainly quite apart from existing facilities as we know them today.

Need For Modern ATC

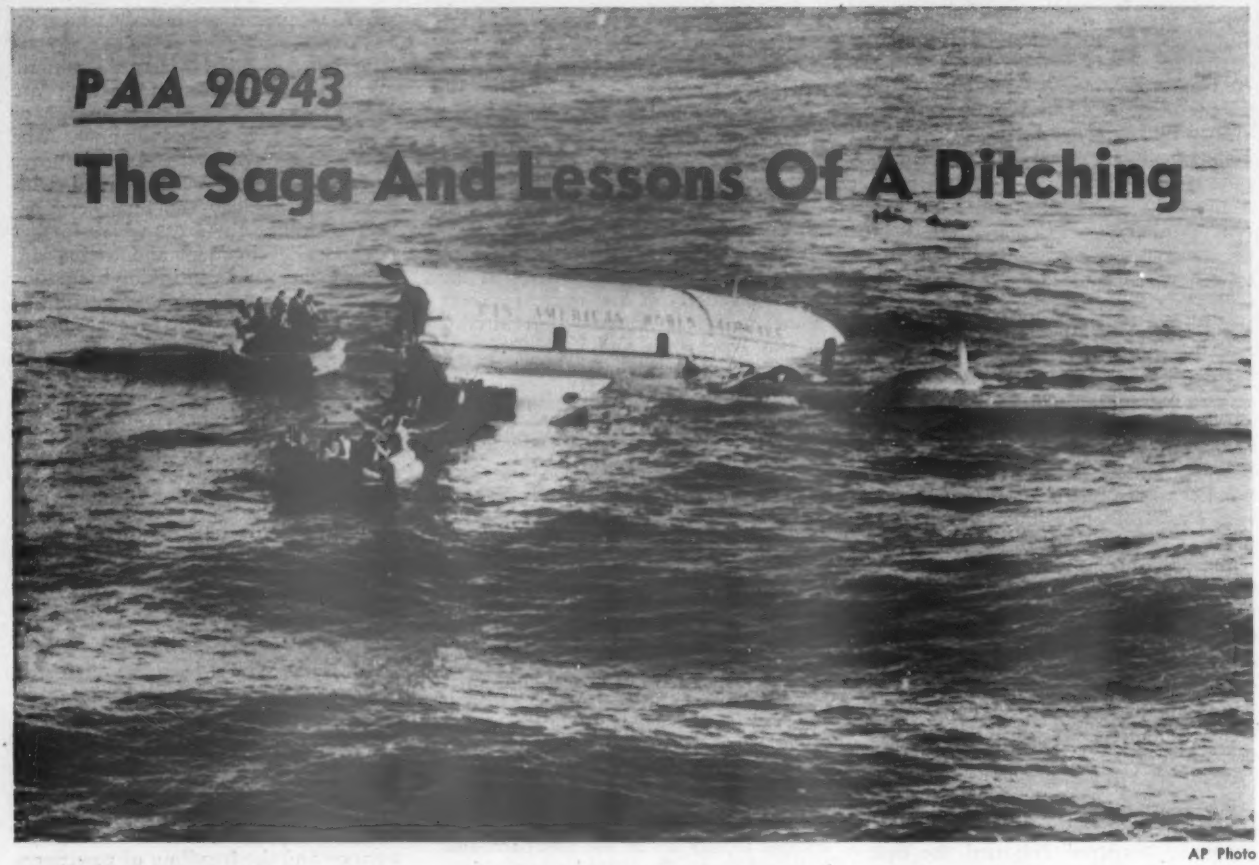
In order to take care of aircraft increasing in numbers and complexity, we must proceed at once to modernize our present traffic control system. Under the able leadership of Jim Pyle the Civil Aeronautics Administration is continuing to attack this problem with energy and enthusiasm. Their budget for Fiscal 1958 provides for additional personnel and equipment which will be of real help in the near future. It deserves and I hope will get the necessary appropriations from the Congress. Among other things, this will permit the extension of present radar control techniques in the approach and terminal areas, improved communications and airport lighting and high altitude positive control.

Although this program represents some real improvement, the present system has real basic limitations so that everyone agrees that if we are to have a system sufficiently flexible to take care of our future needs, we must work as rapidly as possible toward a much more sophisticated approach using the best modern technology available. We must, for example, make full use of computers and display techniques to get away from the present slow and cumbersome method of manual flight strip postings. We must, at least, augment our present overburdened voice communications with some form of rapid simplified data link method to pass essential information back and forth between the controller and the plane in the air, and between controllers themselves. For the past six months, my Systems Engineering Team composed of ten experts in various aspects of the field have been working on a master plan for such a traffic control system. This master plan will become a part of my overall report and recommendations to the President this Spring. The plan will be organized in stages to permit an orderly transition from what we have today. It will start with recommendations for the general application of techniques which are known, but either not yet in use or used only in a limited manner. The second stage will extend to improve procedures which can be used with existing technology and finally, we expect to outline the areas where further research, development and testing will be necessary on a continuing basis. The plan insofar as possible will attempt to provide for the needs of the various types of users from the minimum equipped private flyer to the airlines and the military. It will specify the areas in which we believe positive separation will be necessary such as high altitudes and congested terminals as distinct from areas and altitudes where a minimum control or none at all will be required. It will permit the military to perform their necessary tactical and training missions with a minimum of interference from normal civil traffic.

Airport Problems

As we are able to move increased airborne traffic more and more expeditiously our airports will tend to become increasing limiting factors in the system unless they are improved and extended both in their capacity to accept more aircraft on the runways and to improve facilities for maintenance and the handling of passengers and cargo on the ground. In planning to meet these needs, much of the information and much of the work must be done within industry itself. The aircraft manufacturers have a real responsibility in the development of aircraft which are compatible with the ground facilities which can be reasonably provided. There has been a decided tendency in the past to design and build maximum performance aircraft on the assumption that somehow airports will be built to accommodate them. Instead of demanding more and more concrete the designers must make maximum use of the technique like boundary layer and jet flap control to improve the take-off and landing characteristics of our future planes. The airlines can do much to standardize many of their procedures and to furnish airport operators with data which only they can provide. In addition to this, however, the Federal government has a real responsibility to assist in the planning of an adequate national airport system. As the result of our requirements study we expect to be able to give certain specific communities a reasonably accurate forecast

(Continued on Page 22)



AP Photo

Some Valuable Lessons On Emergency Equipment And Techniques Have Come From Recent Ditching — A First-Hand Report By The Pilot Who Executed The Successful Landing

By Capt. Richard N. Ogg
PAA

The emergency landing last Oct. 16 of PAA Stratocruiser N90943 beside the Coast Guard vessel "Ponchartrain," halfway between Honolulu and San Francisco has aroused much interest throughout the various pilot groups, and it is appropriate to set forth the story from the pilot's standpoint, and to detail what was learned and what might be suggested in the way of changes in our emergency equipment and technique to improve our ability to perform in possible future emergencies.

The Airplane

The aircraft, a Boeing B-377 equipped with P & W R-4360-B6 engines with CH-10 supercharges and Hamilton Standard 24260 propellers, had come from Tokyo and my crew acquired it at Honolulu for its last leg to San Francisco. We had been to Manila and had had 48 hours' rest at Honolulu. PAA overseas crews have seven members: Captain, First Officer, Second Officer/Navigator, Flight Engineer, and three cabin attendants. Twenty-four passengers were aboard when the load was completed; three of these were small children.

The Flight Plan

Our flight plan specified an initial cruising altitude of 13,000 feet to approximately the halfway point, then 21,000 to destination. Enroute weather was good, with a high pressure area centered about the midpoint. Winds were very light at all altitudes.

Takeoff was at about 7:30 p.m., Honolulu time. Flight proceeded uneventfully through serving of dinner, after which most of the passengers went to sleep. My watch list gave First Officer Haaker, Second Officer Dick Brown and myself all some time at the navigation station. This system of shifting assignments among the pilots prevents boredom and consequent decrease of attention to duty, and allows the captain and first officer to keep themselves proficient at navigation. The watch schedule placed me at the navigation table for the two hours across midpoint. As I took over the station, I noticed that we were only slightly to the left of track, and would therefore pass the Coast Guard ship at Ocean Station N within about 28 miles.

Our weight and airspeed now indicated it would be appropriate to climb to 21,000, so I told Haaker, who was at the controls, to obtain clearance and climb up. During climb I busied myself with preparation of the routine message for transmission to the ship as we passed. This message gives pertinent data about the aircraft's identity, altitude, track, etc., and may request a radar fix while within range.

Coast Guard Vessel Stations

Coast Guard vessels such as this one at "Ocean Station November" are stationed at various important enroute points on the overseas air lanes of the Atlantic and Pacific. They serve triple purposes. As weather stations, they gather important surface and upper air data to implement mainland weather forecasting, and can furnish upper air reports to passing aircraft. As navigational aids, they furnish radio-beacon signals and radar fix service to passing traffic. And as lifesaving units, they are capable of diversified and prompt search and rescue activity in time of need, to air or surface transports. This particular ocean station, "N", is almost exactly halfway between Honolulu and San Francisco, and we had used the navigational and weather data from the ship on duty there on almost every crossing.

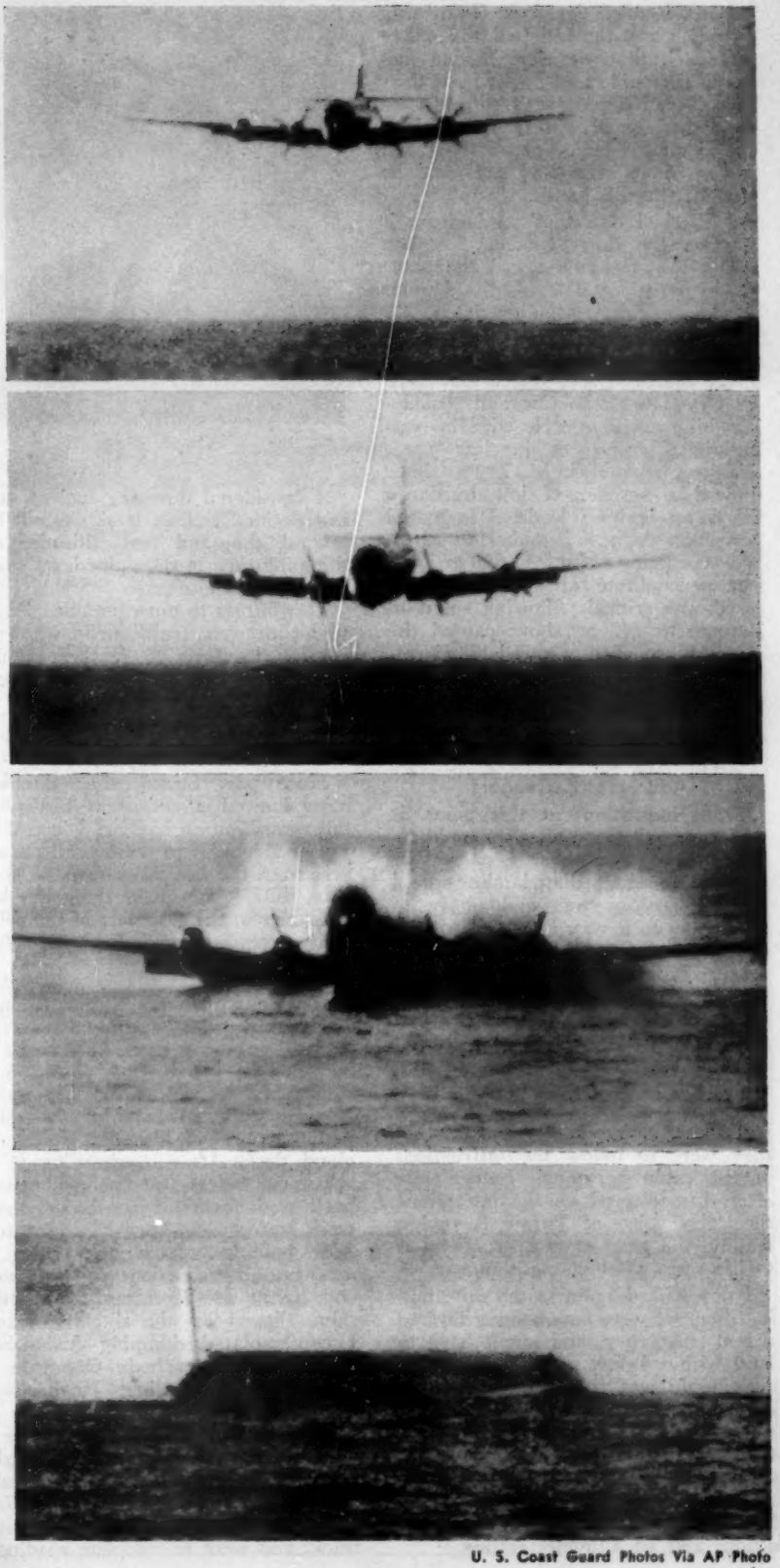
Propeller Trouble

When we reached 21,000 and our speed picked up after Haaker's leveling off, it happened: the sudden, rising, deafening scream of a propeller running far past normal speeds. It was a left hand propeller, and in perhaps four seconds its speed rose from normal to tremendous. As I ran forward, I saw Haaker's hand reach up and press the feather button for number 1 propeller. There was no change in the sound. As I squirmed into my seat, Engineer Garcia was pulling the throttles back and Haaker was getting wing flap down. I tried the feather button. Nothing happened. Garcia hit the gang bar, with no result. As the airspeed fell off, the speed of the racing propeller diminished, but the noise was still alarmingly loud and high-pitched. I held the button down for a long period, at 140 knots IAS. No result. We were losing altitude, and restored climb power to the good engines. Haaker reported our trouble to flight watch and mentioned our emergency descent.

I told Garcia to freeze the engine. He shut off the oil. We were still losing altitude with 20 degrees flap and 140 IAS. After about three minutes with the oil off, the engine seized. There was a thud that shook the frame, and the propeller continued its bawling runaway. Its weight had sheared the shaft, leaving the engine stopped and the propeller free to windmill. A continued left-turn torque showed the drag was still great from the propeller.

Radioes Coast Guard

An uncontrollable runaway prop constitutes a serious hazard for several



U. S. Coast Guard Photos Via AP Photo

reasons. I called the Coast Guard ship on 121.5 mc. and advised the officer on watch that we were having mechanical trouble and might need their assistance. He acknowledged and gave me a ditching heading (which is kept posted on the bridge at all times and is revised as necessary) and said he was alerting all hands.

I checked our ADF to be sure it was on the ship's beacon, 335 kcs. While I was thus engaged the plane yawed a little and Haaker said number four engine was failing. Its BMEP gauge ranged erratically up and down the scale, finally settling down at about 100. Engineer Garcia now bent his efforts to diagnosing and remedying this new failure. He tried increasing the temperatures, juggling manifold pressure and RPM. The analyzer showed a number of low resistance shorts on ignition leads. I increased power on engines 2 and 3 to rated. We were losing altitude at 500 to 1,000 feet per minute at 140 IAS. This speed was critical. Allowing speed to increase to 142 or above caused the disabled propeller to speed up alarmingly, while allowing a decrease to 137K or less caused buffeting stall warning. I had retracted wing flap to zero.

Addresses Passengers

From indications at this point, it now appeared that unless we could restore power to number 4 or feather number 1, an immediate landing would be necessary or we would have to dump fuel to a very low level to stay above the surface. So I altered heading to home in on the ship, and addressed the cabin on the loudspeaker system. I told the passengers we had an emergency situation that might make an emergency landing necessary. I told them there was a Coast Guard ship nearby ready to assist us, that we had the situation under control, that they were to follow the instructions of the cabin personnel. Immediately after, I monitored on the interphone the calm voice of Purser Reynolds, reading the emergency instructions as to life vests, ditching position, etc.

I now talked again to the ship, telling them we were now homing in, had a real emergency, and might have to land within a few minutes. The officer's reply was that all hands were at stations and that a short string of water lights was already out along the the ditching track and more were being added. He said the ship's guns were firing flare shells to illuminate the surface, and gave us swell and wind conditions and an altimeter setting.

Capt. Ogg

I considered dumping fuel at once, but decided against it as we still had several thousand feet altitude, and dumping time to standpipe level would be only a minute or so.

Our efforts to nurse number 4 back to health were fruitless. So were our continued efforts to feather number one propeller by holding in the circuit breaker while also holding down the feather button.

Fears Tail Separation

Since past Stratocruiser ditchings have showed a consistent history of tail separation on landing, I instructed Purser Reynolds to remove all passengers from the last three rows of seats. PAA B-377 cabins have the galley and lavatories in the rear part of the cabin area, extending well forward before the seats begin.

We also removed passengers from the plane of the number one propeller. We were still losing altitude.

Sights Ship

The first we saw of the ship was a glow caused by its searchlight, directed vertically upward, filtering through the cloud deck. After overheading it at about 6,000 feet, we began shuttling back and forth along the ditching track, using a more-or-less racetrack ADF holding pattern, and trying to arrange our excursions so we could end up at sea level and beside the ship, aligned on the ditching track. I contemplated dumping fuel when 2000 feet was reached. Our rate of descent was decreasing. Haaker was busy on the radio, passing details to Honolulu and San Frencisco, while I talked to the ship. Commander Earle, Captain of the "Ponchartrain," said they now had out a 1½ mile string of water lights along the ditching track, and were in complete readiness for our landing. As soon as we passed through the cloud layer, I addressed the passengers again, pointed out the lights of the ship, and reassured them that we had competent help awaiting us.

The three Passenger Service girls had worked fast—they had distributed life vests, had re-instructed the passengers in their use, and had cleared the cabin and galley of all loose articles.

At 2000 feet our descent stopped. At 140 IAS, rated power on engines 2 and 3 and at 100 BMEP on 4, we were holding our own. This development now changed the picture. It reopened the possibility of reaching land, and it made possible postponing the landing as long as fuel remained. A few gyrations with a computer showed, however, that with a fuel consumption of 3600 lb./hr. and a TAS of 147 K. and the very low wind component that existed, we could not reach either Hilo or San Francisco. We would be 150 to 250 miles short either way. Even with the possibility of stretching range by reducing fuel consumption as the load decreased, there existed the necessity to consider the high swells in the Honolulu area and the cold water in the San Francisco region, and the good conditions at Ocean Station N. I abandoned ideas of reaching land and notified the ship we were committed to an eventual, but not immediate, ditching.

Decides On Daylight Landing

In considering delay of landing until daylight it was necessary to take into consideration the condition of the passengers as to possibility of panic resulting from prolonged tension, and the possibility of losing number 1 propeller, with probable damage to the aircraft, due to its sustained high speed rotation. However, after talking with the passengers personally and discussing with Garcia the propeller situation, it appeared best to make use of our chance to make a daylight landing. The passengers received this decision with considerable obvious relief.

Number 4 engine, after an hour's running crippled and at fractional power, finally failed entirely and was feathered.

The "Ponchartrain" gave us time of sunrise and first light and constantly-revised data on wind, weather and swell conditions.

The long wait for dawn allowed us to further improve our ditching preparations. I had decided to evacuate the plane and launch our rafts just as if no help were near; accordingly, we each reviewed and mentally rehearsed our individual part in the evacuation.

Some helpful passengers who volunteered to aid in the operation were briefed on their part.

As fuel burned out and weight lessened we were able to climb. So, to check our rudder control in the unbalanced condition at ditching speed and configuration, we climbed to 5000 feet and went through a simulated landing. This showed we would have good control.

Passengers Kept Informed

When dawn came, I postponed the landing again to exhaust fuel to almost-empty tanks. The sight of the Ponchartrain in the morning sunlight was a reassuring sight to us all. Morning conditions brought a change of swells and wind. Commander Earle withdrew the water lights, suggested a new ditching heading of 350 degrees, and told me he wanted ten minutes' notice before landing to lay a trail of foam on the surface to mark the track. In an informal and "chatting" manner, I passed all developments to the passengers, and I believe this contributed to their calm state of mind throughout the emergency. Haaker, Garcia and Brown visited the cabin at times, talking to the passengers and reassuring them. We never had any panic at any time.

Finally, when our fuel was down to about 30 minutes' supply, I told Commander Earle we would land in 10 minutes. Passengers were re-seated and re-briefed. Garcia packed pillows between himself and the forward part of his desk. The foam track on the water made a helpful "runway" which gave perspective and directional emphasis. Dick Brown assumed his ditching station in the cabin on a passenger seat near the main entry door. After completing the emergency landing check list and squaring away at the "runway" we gave the passengers a "one minute to go" warning and got a final swell and wind condition check. Swells were 4 feet, wind calm. With full flap down, gear up, at 90 knots IAS, I touched down at a likely-looking spot on top of the main swell, about a third of a mile from the ship. I figured that considerable rebound and runout would bring us to a stop quite near the ship. There was a light impact as we clipped the top of a secondary swell, then a very heavy decelerating impact. We were thrown heavily forward against our belts; a violent water loop to the left took place, probably caused by number 1 engine being torn from its nacelle. The nose buried itself in the sea, and the entire cockpit was momentarily submerged. Then we stopped moving, floated level, and there was

For Their Help, Commendation

UP Photo

U. S. Coast Guard Cutter Ponchartrain.

January 22, 1957

Vice Admiral Alfred C. Richmond
Commandant, U. S. Coast Guard
13th and E Streets N.W.
Washington 25, D. C.

Dear Admiral Richmond:

At the recent convention of our Board of Directors comprised of more than 250 air line pilots, unanimous recognition was expressed of the invaluable services of the U. S. Coast Guard during emergencies of air line aircraft culminating in the adoption of the following resolution:

"WHEREAS the U. S. Coast Guard has repeatedly demonstrated their ability to commendably provide various services not only to ships at sea but aircraft in distress as evidenced in recent forced ditchings of aircraft; and

"WHEREAS the assistance of the U. S. Coast Guard has been invaluable in further providing the services of ocean weather reporting ships, communications, navigation aids, relay of air traffic control information, ditching procedures and training, search and rescue,

"THEREFORE BE IT RESOLVED that this Convention go on record as recognizing and appreciating the commendable indispensible services provided by the U. S. Coast Guard."

We are pleased to bring this expression. of commendation to your attention and I personally wish to extend my appreciation on behalf of the entire membership of the Air Line Pilots Association for the many services that the U. S. Coast Guard has provided through the years.

If we may suggest it, we would appreciate your making our gratitude known in all echelons of your command who have participated in providing these most valuable services to members of our organization.

With best wishes, I am

Clarence N. Sayen

no water above the floor. We had come to a stop in a very short distance. None of us was hurt. Garcia, Haaker and I hurried back to the cabin. The door between the cockpit and the cabin was jammed shut and could not be opened, but we climbed through the inserted or "dutch" door which is a part of the upper main door.

Tail Breaks Off

The tail had broken off and had carried away the two rear-most rows of passenger seats. One occupied seat had torn loose, and one seat belt had broken. Very minor injuries had resulted to 3 or 4 passengers. Some trim from the top of the cabin had fallen. Seatbacks on unoccupied seats were folded forward. Otherwise there was not much destruction to the cabin.

Dick Brown had already launched his raft out the main cabin door; it was inflating slowly and the hiss of the gas from the bottles was audible. Our helpful passenger was out on the right wing very quickly, inflating a raft. Garcia was right behind him. Haaker took his raft out the right wing, rigging a life line as he went. Passengers were standing patiently by the exits awaiting their turn to board the rafts. I busied myself checking the entire cabin to see for sure no one was incapacitated, hidden and in danger of being left behind. Brown grew impatient with his raft's slow inflation rate; he jumped into it, smoothing it out on the surface and hastening its inflation. Passengers began embarking. On the right wing, our cooperative passenger had not pulled the raft's "D" ring hard enough, and only half of the raft had inflated. Garcia, right behind him, noticed it and pulled the ring again, releasing the second bottle and inflating the other half.

Cabin Cleared In Four Minutes

Within four minutes we were all out of the cabin. I boarded the right wing raft and, using the paddles, we shoved off via the training edge. There was no jagged or upward-distorted metal from wing flaps to impede us or threaten the raft.

The main-door-raft encountered temporary difficulty when the broken tail, still attached to the fuselage by its cables, floated around and barred the way to pulling away from the plane. This trouble disappeared shortly, however, when the tail sank. Much jagged metal was in evidence in the area of the tail breakage.

Coast guard launches showed up at this point, and put a man aboard the plane to check for complete evacuation. The raft on the left wing had not yet pushed off, and one launch crew threw a rope aboard and pulled it free. In this operation the lower half of the raft was punctured, probably by jagged metal from the torn number 1 nacelle.

The Coastguardsmen wasted little time transferring us to their launches, then to the ship. Had I anticipated the sudden stop on landing I would have touched down much closer to the ship and the Guardsmen would have been to us even sooner.

Lessons Of Accident

From this incident, the most impressive things learned were:

- Quicker inflation of rafts would be a big step forward toward more effective emergency equipment.
- An improved seat belt arrangement for children-in-arms during emergency landing is necessary. A good solution would seem to be the use of an extra, auxiliary quick-attach belt which could be fastened to the parent's seat and which would encircle the infant, independent of the parents' belt.
- In handling passengers under emergency stress, the importance of crew calmness and deliberateness is very great. When crew members, and especially the captain, convey the idea of: "We aren't scared, we know what we are doing, and we are going to do it right," then passengers will assimilate the same collected feeling.
- Shoulder harness for crew members is a must for emergency landings.
- A mechanical device to firmly hold open the door between the crew and the passenger compartments is a **must.**
- All crew members flying over water would do well to familiarize themselves completely with the facilities, services and information provided by the Coast Guard and Search and Rescue organizations. Publication CG306, *Aircraft Emergency Procedures Over Water,* available from our Government Printing Office, contains a wealth of information on this very important subject.

Meet Your Officers

Capt. C. E. Luther

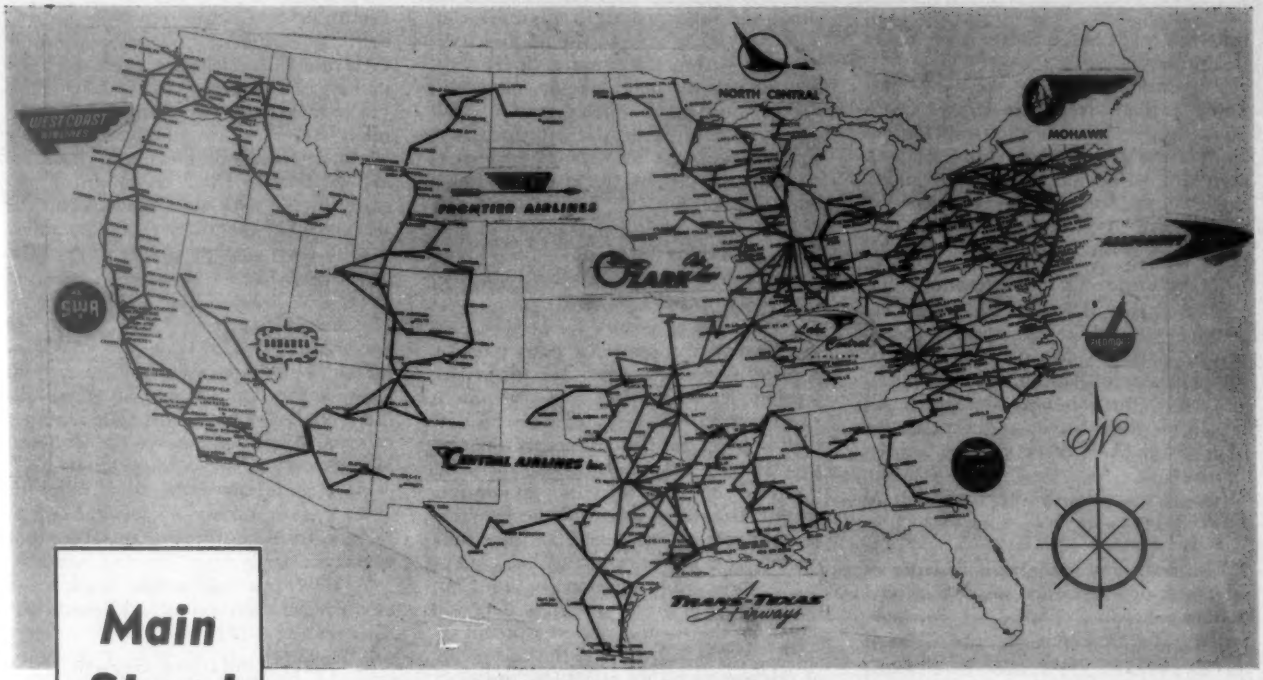
Clark E. Luther who recently assumed his duties as Vice-President of Region III, is a Capital Airlines captain living in Falls Church, Virginia.

Born in Hooper, Nebraska, he attended schools there, and in Arlington, Virginia. In 1941, he entered the University of Maryland, however left college the following year, when at 18 he enlisted in the Army Air Corps. He started pilot training in 1943 and won his wings in 1944. Following several months of training he was sent overseas, where he flew a combat tour of 35 missions in B-17's. After his discharge, he returned to the University of Maryland to complete his studies and in 1947 was graduated with a Bachelor of Science degree in Foreign Trade and Economics.

Luther joined Capital in 1948 and qualified as Captain in 1952. He flew reserve captain until 1956, when he moved into a captain vacancy. Also while employed, he returned to the University of Maryland, and in 1952 was awarded a M.A. in Transportation and Labor Relations.

The new Regional Vice-President's ALPA activities include: MEC Senior Copilot Representative, 1952-54; Negotiating Committee, 1951 through 1957; Hearings and Appeals Committee, 1954-56; member of five-man Neutral Panel in the Flying Tiger-Slick Seniority list integration; CAP's Pension Representative, 1956-57; Organizational Structure Committee, 1956; editor of CAP pilots newsletter, 1952. In 1955, he was appointed by the Executive Committee to a Master List of pilots and copilots to serve, if needed, on a seniority integration arbitration board.

Luther is married and is the father of two children, Scott, age 7, and Donna, age 4.



Main Street

A Third Century Later

How The Local Service Airlines Have Changed The Face Of America And Brought The Small Towns And Isolated Areas To The Main Line

By Chapin R. Leinbach

(Reprinted From PEGASUS*)*

Thirty-five years ago Sinclair Lewis wrote a blueprint for America. He recognized that Caesar had conquered Gaul and Erasmus had written in Oxford cloisters so that a Ford car might stand in front of the Bon Ton Store in Gopher Prairie, Minnesota.

He knew that what Ole Jensen, the grocer, said to Ezra Stombody, the banker, was the law for London, Prague, and the unprofitable isles of the sea; whatever Ezra did not know and sanction, that thing was heresy—worthless for knowing and wicked indeed to consider.

Gopher Prairie's railroad station was the final aspiration of architecture. Sam Clark's annual hardware turnover was the envy of the four counties that constituted God's Country. In the sensitive art of the Bijou Movie Palace there was a Message, and the humor was strictly moral.

America—Then

That was America—a town of a few thousand, in a region of wheat and corn and dairies and little groves. The story was the same in Pennsylvania or California; in Arizona or Louisiana or Michigan. And not very differently was it told up York State or in the Carolina Hills.

Main Street was the climax of all modern civilization.

America—Now

Look now at Main Street today. Ole Jensen is discussing with a customer the miracle of a form of transportation that allows him to stock fresh fruit and vegetables the year around. His thoughts are directed to the parts of the country responsible for making his grocery store a winter garden.

Sam Clark's store is no longer a hardware store as such. Not that he has abandoned hardware. But the speed of modern transportation enables him to turn over his stock so frequently that he has recovered much of the room formerly used for large inventories. The additional space now houses china and glassware and all manner of things bearing foreign labels.

Ezra Stombody is not in town. His bank has recently advanced a large part of the construction costs for the new airport. A new airport is necessary because a large industry has decided to build a branch nearby—but only if air transport facilities are increased. Banker Stombody knows what new industry and increased air service mean to the prosperity of his community and is giving the project all-out support. He is not in town today because he has flown out to Arizona to discuss the new airport with his son. His son is a resident architect at Frank Lloyd Wright's Taliesin West near Phoenix. Knowing from his travels that modern design lends itself well to airport construction, Ezra Stombody is eager to draw upon the work of the most advanced practitioners in the field of architecture for the airport in his town.

French At The Bijou

The Bijou Movie Palace is now simply Bijou. And it has moved to premises slightly tributary to the main thoroughfare. The marquee announces a new offering: "Diabolique." This French importation is running concurrently in the large city some 500 miles away. In fact, the Bijou often shows

the latest hits before metropolitan theatres. Swift aerial film service makes this possible.

The same is true of the shops just down a piece from the Bijou. Overnight they receive the smartest fashions from New York and Hollywood. A shrinking world has brought the goods, the customs, and the ideas of peoples everywhere to Main Street.

". . . A shrinking world. . . ."

Extension Of Fifth Avenue

Therein lies the chief difference between yesterday's and today's Main Street. Certainly Main Street today is the backbone of America even as it was yesterday. But whereas Sinclair Lewis talked of Main Street as the extension of all other Main Streets in the Gopher Prairies of America, today's Main Street is more likely the extension of Fifth Avenue.

Why?

The answer in general is because of air transportation. The answer in particular is because of local air transportation. The answer is because 13 local service airlines have tied small-town America to big-city America—because 13 local service airlines have tied small-town America to the world. Since to the length and breadth of America the local service carriers have added depth, the isolated American community is rapidly becoming an anachronism.

Local airline service was inaugurated, on an experimental basis, a little more than 10 years ago. It was a further implementation of the spirit of the Civil Aeronautics Act of 1938—that the U.S. should have an air transport system capable of serving the nation as a whole. The scheduled trunk airlines already had linked together the big U.S. cities. Now it was a question of developing the air map locally. The process could be likened to the natural growth of a boy who first gets his height before he begins to fill out.

The Reason For Feeders

It may be asked why the airlines already in existence were not encouraged to develop local service. The answer is found in the philosophy of the Civil Aeronautics Board, whose members chart the course for the development of our airline system. The Board maintained that there was a fundamental difference between trunk carriers and local service carriers, giving them different objectives. The primary objective of the trunk carrier was to tie together the major cities or hubs within a given trading area, and in turn, to link that trading area with other trading areas. The primary objective of the local service carrier was to link the small and intermediate communities in a given trading area to the major cities or hubs within the same area. In this way, it was reasoned, people, mail and goods would be channeled, by the local carriers, from small and intermediate-size communities into the large terminal cities served by the trunk carriers; and vice versa.

In deciding that a new group of airlines should be created to round out the nation's transportation system, the Board had this to say:

"The type of service we here visualize involves an entirely new type of service gaged to meet the needs of smaller communities and relatively short hauls. In view of the limited traffic potentialities of points on the new system, an unusual effort will be required to develop the maximum traffic. Greater effort and the exercise of managerial ingenuity may be expected from an independent local operator whose continuation in the air transportation business will be dependent upon the successful development of traffic on the routes and the operation of the service on an adequate and economical basis."

It was believed that the reason that caused the hare to outrun the hound would cause the local service carriers to develop more traffic than the trunks at intermediate points. The hare was running for his life while the hound was running for his lunch. It was a question of incentive.

Serving 500 Points

As, over the years, one community after another has been added to local service routes, we know that the incentive has been there, until today nearly 500 points are being served by the local airlines. Of those points, more than 270 receive their only air service from a local carrier, while many communities have no other type of common-carrier service. Passenger travel on local airlines more than trebled in the five-year period 1950-1955—from 1,000,000 to 3,000,000 passengers. During the same period mail volume rose from 599,000 ton-miles to 2,700,000 ton-miles, while the volume of freight jumped from 714,000 ton-miles to 1,147,000 ton-miles. This record earned for the locals permanent certificates last year.

But the real story of local airline achievement is found behind the statistic. It is found out on the line—it is found along the 30,000 miles of local airline routes, where the average distance between stops is less than 100 miles. It is there that the local carriers are binding vast spaces, natural resources and scattered cities into a common economic and cultural union. It is there that the local carriers are making the word isolation obsolescent.

Chambers of Commerce in small-town America are eloquent in their testimony that business and industry are settling in their communities because of the excellence of local airline service. The industries include new manufacturing plants, distributors and other enterprises seeking dispersal from large metropolitan areas.

Recently Southern Airways directed an inquiry to the Chamber of Commerce (or comparable civic group) in each of the communities it serves exclusively, by which is meant that no other airline—local or trunk—provides air service to those communities.

Among the questions asked were:

1. Has airline service resulted in the location of new industry in your community?

2. How can this airline assist your city in the location of additional industries?

Boosts Industrial Growth

Nearly all the respondents stated unequivocally that the new industries which had recently located in the respective communities would not have done so had not regular, daily scheduled airline service been available. Several of the Chambers suggested that the airline establish a regular department whose sole function would be to assist on-line cities in the presentation of community solicitations for the location of new plant sites. Without exception, acknowledgement was made that Southern offered an indispensable community service.

The Ford Motor Company recently located a proving ground at Kingman, Arizona. One of the chief reasons for selecting the site was because of the scheduled air service provided by Bonanza Airlines. An official of Bonanza comments on his new neighbor as follows:

"Our part in Ford's operation amounts to this: Parts, such as radiators, generators, transmission gears, carburetors and tires are shipped from Detroit one evening and arrive in our town, via airline, the next morning. These parts are rushed to the proving ground, installed on a test Ford, run all day, removed, rushed to the airport, placed aboard one of our flights and are delivered to the Ford Company in Detroit the following morning. It has been stated by the management of the proving grounds that its operation could not function without the efficient service of our local airline."

The airline official goes on to explain that Ford has other proving grounds and that the operations he has just described are on a competitive basis, i.e., the more successful the tests on one unit, the more testing assigned to that unit. The testing ground in his town—served by his airline—has held top honors in this respect for some time.

A Chance For Competition

Small communities now have an opportunity to compete with large communities in bidding for industries looking for a place to locate. One of the most arresting examples of this in our time is the location of the new research, development and manufacturing center of the Curtiss-Wright Corporation at Quehanna, Pennsylvania. Quehanna is a 16-sided tract of forest, 30 square miles in size, on a plateau in the Appalachian Mountains. Within a 30-mile radius approximately 100 thousand persons make their homes. It is believed that the payroll of the center will number about 35,000 employees. The center thus becomes a community. The trading area of the new community is bounded by hub cities 200 to 300 miles distant. The community is linked to those cities by the regular scheduled air service of Allegheny Airlines. The center thus becomes part of the nation.

There is an important sociological corollary to the creation of the new community at Quehanna. For years the people residing in the adjacent area have had a critical unemployment problem. Industry there has been in retreat. This area now serves as a reservoir of manpower for the Quehanna project. Industry is once again on the move. Thus, in bringing new life to an area, Curtiss-Wright is at the same time revitalizing the old.

Serving The West

The removal of sectional differences through local air transportation is well illustrated by considering a part of the country where geology seems eager to keep such differences alive. The difficulties and inconveniences of travel between Reno and Las Vegas, Nevada, had, over the years, created a gap that grew to be more than a mileage factor. From the early 60's when Nevada became part of the Union, the northern and southern parts of the state were split into separate worlds, each with different interests. Reno and Carson City had always been allied culturally and economically to San Francisco, while Las Vegas' interests had traditionally been more closely tied to Los Angeles and Southern California. So little was known in the State Capital of Clark County (of which Las Vegas is the county seat) that a poll taken in 1946 showed only 20 per cent of the legislature had ever visited the southern city. It was about that time that Bonanza Airlines got going in the Silver state.

It may not have been the intention of Bonanza to help break down rivalry between the two cities through understanding of each other's ideas and problems, but it has certainly turned out that way.

Bonanza's first goodwill gesture was to fly the entire Nevada State Legislature, while in session, to Las Vegas. Thereafter, a number of business men and civic groups were carried on goodwill exchange trips. These gestures paid off handsomely when the airline, worried over the limited passenger traffic, announced that it would have to curtail service between the two points. Immediately, leading business men in both cities offered to purchase stock in the company or to loan it money. The airline refused all such offers, stating merely: "All we need is traffic." Whereupon the Reno and Las Vegas Chambers of Commerce met in an unprecedented action, combining to inaugurate a $10,000 publicity and advertising campaign to stimulate air travel between the two cities.

Cities Cooperate

The affair between the two cities was further consummated in 1948, when Reno offered a surplus hangar to Las Vegas for no other cost than that attendant upon dismantling and transporting the hangar. The hangar was moved, piece by piece—a good 500 miles over desert highway—and reerected at the airport at Las Vegas. It now serves as the base of all the operations of Bonanza—the airline that brought the two cities—the two parts of the country—together.

In the wake of closer ties between previously unrelated sections of the country come people. With people come ideas. And with the exchange of ideas, provincialism vanishes.

This is what is happening across the face of America. The thousands of eastern business men who make periodic sales trips to the small towns in the new industrial South or West take part of the East with them. And they return to the East with a bit of the South—of the West. Accounts of what they saw induce others—friends and family—to go see for themselves. Thus the sectional bond is strengthened.

Local transportation and good trunk connections also enable the business man to go and come within the same day. And while it enables him to spend more time at home with his family, it is removing from the American scene —from Main Street—a most colorful item of American folklore: *The Story of the Traveling Salesman.*

In The Ole' South

There are numerous other examples across the country testifying to the elimination of sectional barriers by local airlines. Take Natchez, Mississippi. Until the Civil War, Natchez was known as the "Gold Coast of the South." King Cotton had created a plantation royalty--King Cotton and

Local Service Airlines And The States They Serve

ALLEGHENY AIRLINES—	Pennsylvania, New Jersey, Delaware, New York, District of Columbia, Ohio and West Virginia.
BONANZA AIR LINES—	Nevada, Arizona and California.
CENTRAL AIRLINES—	Oklahoma, Texas, Kansas, Arkansas and Missouri.
FRONTIER AIRLINES—	Arizona, Colorado, Montana, New Mexico, North Dakota, Utah and Wyoming.
LAKE CENTRAL AIRLINES—	Ohio, Michigan, Illinois, Indiana and Pennsylvania.
MOHAWK AIRLINES—	New York, New Jersey and New England.
NORTH CENTRAL AIRLINES—	Michigan, Indiana, Illinois, Wisconsin, Minnesota and North Dakota.
OZARK AIR LINES—	Illinois, Indiana, Kentucky, Wisconsin, Iowa, Missouri, Kansas and Tennessee.
PIEDMONT AIRLINES—	Tennessee, West Virginia, Virginia, Ohio, Kentucky, South Carolina, North Carolina, and the District of Columbia.
SOUTHERN AIRWAYS—	Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee.
SOUTHWEST AIRWAYS—	California.
TRANS TEXAS AIRWAYS—	Texas, Arkansas, Louisiana and Tennessee.
WEST COAST AIRLINES—	Washington, Oregon and Idaho.

ALPA, which successfully promoted legislation for permanent certification of Local Service Carriers, now is helping to evaluate replacements for the DC-3. Shown above is ALPA's Fokker F-27 Evaluation Committee in discussions with Fokker engineering personnel during recent visit to Dutch plant.

the "paddle wheelers" that tied Natchez, via the Mississippi River, to her markets. The Civil War deposed cotton as king and Natchez as the capital of his kingdom. Natchez thereafter became a backwater in the mainstream of history.

But there was to be an awakening. Natchez was Sleeping Beauty. Her prince was the airplane. Born by the waterway, Natchez was to be reborn by the airway.

Today, Natchez is once again moving with the times. Each year thousands of tourists travel there to see the magnificent flowers, the fine ante-bellum houses, and to soak up the atmosphere and history of this once thriving center of plantation life.

They travel there from all sections of the country—and they travel there by air. Since there is no passenger rail service to Natchez, the daily flights of Southern Airways are helping to make the spring "pilgrimage" to Natchez a box-office success. What does this mean? It means that the economy of Natchez is getting a real boost from the tourist trade. It means that Natchez serves as a forum for the exchange of ideas—the exchange of ideas between sections of the country that have not always seen eye to eye. And it means something that is too often overlooked in the habit of Main Street to convert to the latest gadget.

It means that many communities which have been outpaced by the course of progress are now being put back into the main stream. In the case of Natchez, this is being done in terms of its own historical past.

In The East

For years a barrier of seven mountains kept the port of Erie, Pennsylvania, from tapping the industrial and cultural heart of the state. Not only did this isolation keep Erie from growing, but the entire state of Pennsylvania was being denied the benefits of its only gateway to the Great Lakes and the St. Lawrence River area. Erie was thus a frozen asset: Pennsylvania was unable to utilize its birthright.

Look at Erie today. Erie is now to Pennsylvania what Buffalo is to New York. Erie has not only been geared into the trading area represented by Pittsburgh and other centers of industry, but it has opened up vast markets to the North. Now that the U. S. Government has approved the St. Lawrence Waterway project, the potential for the economic development of that area is great.

This dramatic change has come about in large part through the scheduled operations of Allegheny Airlines. Allegheny's daily flights have removed the mountain barriers—have extended industry—and have helped to transform Erie from a static to a dynamic community. Industry is aware of the role of air transportation in phasing deliveries of the products that keep their wheels moving so that the right part arrives at the right time. Large inventories can be cut down and valuable space turned to doing the job. Allegheny plays a major role in keeping the production geared to the flow of essential products from outlying areas.

Introducing The Poultry Industry

There are more subtle ways in which the local airlines introduce one part of the country to another—one part of the world to another. Here is one that involves the poultry industry.

Birds served on Christmas tables around the world may have been hatched in grass-roots America. An official of Southwest Airways says:

"We are now fully cognizant of the problem of the baby chick and turkey poult (an infant turkey) industry and have geared the interests of the California hatcheries and our airline to a common solution. In fact, chicks and poults are probably our best air travelers. They can subsist for 72 hours after hatching without food or water. Which means that these fluffy, fragile little creatures could be air-transported anywhere in the world without peeping their little heads off for want of food, water or mother love. However, we must assure the hatcheries we serve, that our feathered friends can get through to their distant destinations. If we misconnect with the trunks or get the chicks too hot or too cold, we end up with a most unlovely cargo. Salvage is useless, as the birds are too small to fry."

The national usefulness of local airline service ranges from atoms to yeast. Frontier Airlines serves the heart of the uranium country. Much of the exploration for this basic atomic-energy element takes place in remote areas where the only sure access is from the sky. Not only are uranium-detecting devices flown in, but uranium samples are flown out to laboratories engaged in the development of atomic power.

Further evidence of Frontier's role in the drama of survival involves the staff of life. Six days a week, every week, Frontier flies about 1,000 loaves of bread from Phoenix, Arizona, to Winslow, Arizona—a distance of some 300 miles. Since Winslow has a population of 6,000 and few bake ovens, the people of the town receive their daily bread by air.

We know about the excellent operational techniques developed by the trunk carriers—how these techniques, passed on to the local carriers, have given Americans the most useful, the most efficient and the most competitive airline system in the world. By the same token, the locals are doing their part to improve the entire system. Witness how this class of air carrier pioneered a system of fast in-and-out-of-airport service:

The *Ozark* DC-3 comes in, the left engine never stops, the steps drop down, passengers, mail and freight unload and load, and away they go. The aim is never to stay on the ground more than two minutes. In fact, it's a game with the stewardess: "A second late today," regular passengers say. But it's being done on time. And it is encouraging the trunks to hurry up their between-stop operations.

And so the instances of how the local service airlines are making of this nation a more perfect union build up. And quite appropriately these instances build to a point where their value in preserving the union can be assessed as a totality.

Present Local Carrier Fleet

The local carriers operate about 175 aircraft. The vast majority of these are the time-tested, redoubtable but obsolete DC-3's; there is also a sprinkling of larger Martin and Convair aircraft. To man these aircraft, the locals employ about 450 flight crews. To maintain them, the locals employ approximately 1,000 mechanics and 1,000 other skilled ground personnel.

While it is impossible to translate these assets into direct dollars of defense value, we know that they represent a multi-million dollar asset to the nation in time of emergency. Also without a price tag from a defense standpoint are the airport and operating bases with their trained personnel from which the local airlines fly. But certainly their availability in the event of emergency is priceless. All in all, quite a contribution from Main Street to the nation.

The Future

What of Main Street tomorrow?

The local airlines have just scratched the surface of their potential traffic market. Today, 47 million people reside in the areas they serve. As industries continue to decentralize, as new branch offices are created, and as the labor markets in intermediate cities are absorbed, the number and population of those areas are bound to increase. The dispersal of defense plants generates a mission just right for local carrier cooperation. The hearings on permanent certification last year involved examples of the relocation of manufacturing facilities in small towns served by the local airlines and the abandonment of former facilities in large metropolitan centers.

This tendency may be expected to increase in the future as business, industry and people everywhere come to realize more and more that local airlines have eliminated the isolation that once seemed to be characteristic of and inevitable in small communities.

But progress to date and promised for the future has created a major problem. The record of progress that poises the local airlines today to penetrate the short-haul market tomorrow has outmoded their instrument for further penetration.

Replacing The DC-3

For some time the local airline industry has been faced with the problem of finding a suitable replacement for the rugged, trustworthy, versatile but—let's face it—outmoded DC-3. This veteran aircraft was designed about a quarter of a century ago—was the backbone of the nation's transport fleet during World War II—and today is still the most widely operated aircraft in the world. But in the fiercely competitive American transportation market today the DC-3 has reached an economic impasse. For, while the seat-mile cost of this aircraft has been reduced to the limit, it is still too high to permit the economic operation desired. The future of the local airlines lies with another aircraft.

What kind of successor to the DC-3 is airline management thinking about? Here is what one person close to the problem says:

"Generally, local airline executives are thinking of a short-haul money-maker. They are looking for a rugged, safe plane that will be able to get in and out of comparatively small airports and provide frequent, economical service on comparatively short routes."

The urgency of the situation is summed up by a spokesman for the local airlines as follows:

"Apart from the headache of steadily rising DC-3 operating costs, local airline operators must wrestle with the nettlesome problem of parts replacement. Since the DC-3 is no longer being manufactured, replacements are often hard to come by. A grounded plane for want of a vital part is money lost to the carrier. The problem is compounded by customer demand for more modern equipment with greater speed and comfort.

"The same problems confront the trunk lines on their extensive local service route patterns and the large corporations using DC-3's to shuttle executives around the country. There's nothing new about these problems; they just get older, along with the pre-jet age equipment that creates them."

The F-27

Therein lies the problem. The local airlines are facing into the jet age with pre-jet equipment. However, now in 1957, this need not be the case. For in October of this year the first of the Fairchild Engine and Airplane Corporation's F-27 *Friendships* will start rolling off the line. This Dutch-designed plane is a turbo-prop (turbine-driven propeller) aircraft with a cruising speed of 280 mph (the DC-3 cruises at about 150 mph), seating capacity for 40 passengers and with the same ability to operate from airports with short runways as the DC-3. And what is of particular importance, the F-27 is able to operate at seat-mile and ton-mile costs lower than the DC-3.

All the local airlines have shown interest in the F-27. In fact, orders for this aircraft have already been placed by West Coast Airlines, Frontier Airlines, Bonanza Air Lines and Piedmont Airlines, to mention only a few.

Other Possibilities

In addition to the F-27, Britain's Handley Page Herald, France's Hurel Dubois HD 32, and the Frye Corporation's F-1, known as the Safari, have all been designed as replacements for the DC-3. And while the local carriers have expressed varying degrees of interest in all of them, they have placed firm orders only for the F-27.

There can be no doubt that the local airlines must have a new plane to enable them to realize their potential in developing the short-haul air-traffic market. The F-27 may well be the answer. For it is only with the right aircraft that the vigor and ingenuity of the young industry that has linked Main Street to the world of today will lead Main Street into the brighter and better world of tomorrow.

No one knows better than the operators themselves that the degree of utility and acceptance of the local airlines can be no better than the vehicle they operate.

In Memoriam

The Air Line Pilots Association and especially the members of the Association's Engineering & Air Safety Department want to hereby express their deep sorrow to the family and friends of Bill Carr, Douglas Flight Test pilot, who found an untimely death in last month's DC-7B-Air Force Jet collision over California.

He was a fine person, and a brilliant contributor to the development of aviation.

All Association members, who have had the opportunity to work with Bill Carr in various engineering and safety programs, were deeply impressed by his distinct capability and sincerity.

The unfortunate news of his untimely passing leaves us with a sense of loss and sorrow difficult to express.

ALPA's Engineering & Air Safety Staff

The Union's Role In The Professions

The ALPA Is An Excellent Example Of The Meeting Ground Of Unions And Professions

By C. N. Sayen

(Reprinted From The American Teacher Magazine*)*

A question which arises frequently among professional and semi-professional people is: Are unionism and professions compatible? An objective analysis of this question will provide an affirmative answer. An exploration of the basic reasons for the development of group action in the pursuit of common objectives, both historically and in our current political and economic institutions, leads to the conclusion that unionism is not only compatible with the professions, but is an urgent necessity.

All levels of society and civilization throughout the years have accepted some form of unionism in principle, as vital to their well-being.

After all, what is a union? Basically, it is exactly what its name implies —a matter of unity. An examination of all forms of currently existing unions indicate they all have a common denominator. They are all organizations of people with common problems established for the purpose of pursuing common objectives.

Trade unions are merely a form of organizational unity, well-accepted as a part of our way of life. It makes little difference whether unified groups are organized primarily for the purpose of collective bargaining in order to raise income and standards of working conditions, as many craft and industrial unions are, or some other common and legitimate purpose.

Professionals' Need For Unions

By now, most professional or semi-professional groups have realized the necessity for some sort of an organization or union. In the past, many unions strictly identified as trade unions confined themselves solely to the problems of rates of compensation and working conditions of their members. They have now found it necessary to enlarge their functions in such a way as to concern themselves with the promotion of standards of their particular group, political functions, and many other activities once beyond the scope of trade unionism.

While some so-called professional organizations have not reached the stage where they actively engage in collective bargaining for their members, they are nevertheless intimately concerned with rates of compensation, rules, and working conditions as well as the maintenance of standards for their particular group.

With these two forces at work—a recognition on the part of the professions of the need for a unified organization to represent their economic interests and an expansion of trade union responsibilities to the other fields —a common and workable meeting ground between unionism and professionalism has been firmly established.

My own organization, the Air Line Pilots Association, International, represents the professional air line pilot in all of his relations with his employer, the public, governmental agencies, and all other phases of his professional career.

This year, we celebrated our twenty-fifth anniversary. Based on our experience during this quarter century, we are of the opinion that, not only are unionism and the professions compatible, but unions are a necessity to professional development.

A union of professional employees is an essential vehicle for identifying its members as professional people. This is accomplished in several ways, one of which is by providing the means of meeting a basic requirement of a profession: that it contribute to society and social advancement. Such a group is capable of performing essential public services by bringing to the attention of society, the critical problems which exist in their particular line of endeavor.

For example: The Air Line Pilots Association has always been very active in the promotion of air safety and has been a strong, independent voice in the development of many of the standards maintained by civil air transport today. It has also insisted on maintaining high standards for the air line pilot, and has, therefore, drawn competent and responsible people into this work and retained them in the profession with resultant benefits to the industry and the public.

Again, based on our experience in merging the many aspects of trade unionism with the philosophies and problems of a profession into one organization, we have discovered many areas in which the professional employee can be aided by a labor organization. A few, but by no means all, of the important ones are:

- Establishment and maintenance of standards for the profession, by an organization that reflects those standards—a necessity to professional survival.
- Negotiations and maintenance of rates of compensation, rules and working conditions appropriate to professional status—an economic reality no less important to the white-collar professional than the factory worker.
- Political and legislative representation locally and nationally in connection with an employee's professional life—a relationship that is growing ever more essential.
- Representation and participation in technical or professional matters affecting job efficiency or professional welfare—a true requirement of any profession.
- Representation from a public relations view so as to maintain the professional in the most favorable public view—an essential to the acceptance of the group as a profession.

Fading Stigma

The day is rapidly fading when membership in a trade union carries the stigma which many people attempted to attach to labor's first organizing and representing efforts. Outdated, too, is the school of thought that professional prestige must be subordinated to the economic realities of trade unionism, and, therefore, be detrimentally affected. Indeed, to the contrary, history has proven that labor organizations can and do provide a vehicle for enhancement of professional prestige and the increased earning power merited by that profession.

The question facing professional people is not really whether or not they should be organized. More important are the questions: What should be our objectives in organizing? What type of organization will best represent us?

These questions cannot be ignored if a profession and its members are to retain their professional identity and survive, prosper and progress. Very sound answers to both of these vital questions can be found in an effective, properly run trade union that recognizes the economic as well as strictly professional problems and requirements of the group.

Current Topics At The Safety Forum

Agenda For Fifth Annual ALPA Air Safety Forum, March 5, 6, 7, Will Highlight Air Traffic Control, Aircraft Development And Pilot Training Requirements

The ALPA Air Safety Forum is being held at the Hotel Shoreland, Chicago, March 5, 6, and 7. It is the fifth annual Forum of this nature to be sponsored by the Association.

While the Forum itself is comparatively young, the reason for its being is as old as the piloting profession. Stated in broad terms, the reason is: the pilots' professional interest in air safety and the need for expression of the pilot viewpoint in order that that interest may be furthered to the advantage of all.

One-Man Combination

Back in the old days of pioneering mail pilots and the barnstorming stunt men, it was the pilot himself who saw to it that his airplane was in good shape. He handled the wrench and screwdriver himself. He was a one-man pilot-mechanic combination. His interest was, of course, very personal—a matter of sheer self-preservation.

Today this is, of course, impossible as the commercial air line pilot flies the line on a set schedule with highly-complicated, high-performance, multi-engine equipment.

In addition to the pilot's personal interest in air safety, it has become necessary to develop an organizational pattern of air safety to represent not merely the individual pilot, but the entire air line piloting profession, and set standards for that profession. This is what the Association has done in the establishment of its organization for safety, of which the Air Safety Forum is an essential part.

ALPA's Safety Interests

ALPA's air safety interest involves three primary realms—the aircraft which the pilot must fly, the conditions under which he must fly it, including the rules and the flight aids, and the pilot himself as part of the profession which the Association represents.

The Fifth Air Safety Forum will cover all of these areas of interest from the pilot viewpoint. It will provide a meeting place of the minds of the pilots, as users, and representatives from air lines, the government, the manufacturers, and the military, to discuss ways of meeting the challenges of new and faster equipment and of increasingly crowded airways and an ever-growing volume of air traffic.

Fifth Forum's Agenda

The agenda for the Fifth Forum has been set up to cover those topics which experience has indicated to be currently the most critical from an operational viewpoint, the viewpoint on which the ALPA Forums concentrate. To be covered by the 1957 Forum are: (1) Aircraft Evaluation; (2) Air Traffic Control; (3) Pilot Training. *(See complete agenda below).*

All are subjects in which the Association has been active.

For example, the ALPA Aircraft Evaluation program has been in progress for years now. New planes, now in

Fifth Annual ALPA Air Safety Forum Agenda

▶ The Turbine Transport Airplane Development Panel

Speakers: H. Hoekstra, CAA, "Turbine Transport Problems From CAA's Viewpoint"; J. T. A. Marsden, BOAC pilot, "Experience With Turbine-Powered Airliners—An Air Line Pilot's Viewpoint"; W. E. Rhoades, UAL, "An Air Carrier's View On Turbine-Powered Aircraft Performance Requirements"; H. C. van Meerten, Chief Engineer, Fokker Aircraft Co., "Comments On Developments Of The F-27"; H. L. Mouden (BNF), Panel Chairman.

▶ The Air Traffic Control Development Panel

Speakers: J. D. Smith (CAP), Panel Chairman, "The Airport's Effect On ATC"; S. Saint (AA), "The Pilot's Requirements For ATC"; H. S. Chandler, CAA, "CAA's Plans For ATC Improvements"; M. W. Arnold, V. P., Operations and Engineering, ATA, "The Carriers' Views On Adequate ATC"; J. Anast, from E. P. Curtis Committee, "Aviation Facilities Planning For Nation's Future"; D. Ross, IBM, "The Computer In The ATC Problem"; Col. J. F. Taylor, MATS, "Military Requirements For ATC."

▶ Pilot Training Requirements For Present And Future Aircraft Panel

Speakers: E. Watson (EAL), "An Air Line Pilot's View On Training Requirements"; A. F. Bonnalie, UAL Director of Flight Training, "Experience With Simulators For Flight Crew Training"; A. M. Johnston, Chief, Flight Test, Boeing Airplane Co., "Training Program For Jet Transports"; J. L. Harper, Douglas Aircraft Co., "DC-8 Pilot Training Program"; N. Warner, EAL Check Pilot, "Flight Crew Training—Carrier's Viewpoint." E. J. Bechtold (EAL), Panel Chairman.

▶ Individual Speakers:

Pres. Sayen, Welcoming Address; T. G. Linnert and C. F. Eck, ALPA Engineering & Air Safety Dept., "ALPA's Organization For Safety"; D. Halperin (TWA), "Central Airline Safety Chairman Procedures"; H. Miller (AA), "Regional Air Safety Activities"; R. F. Adickes (TWA), "ALPA New Airplane Evaluation Activities"; M. Gough, head of Flight Research, NACA Langley Laboratories, "Take-Off Meter" and "Tire To Runway Braking Coefficient"; J. H. King, USAF, "Altimeter's Position Errors"; J. Lederer, head, Flight Safety Foundation, "Problems For Improving Air Safety"; H. Hasbrook, head, Crash Injury Research Institute, "Crash Safety Design Of Flight Crew Stations"; W. Stieglitz, Design Safety Engineer, Republic Aviation, "The Engineer—Human Engineer—Pilot Relationship"; Capt. A. E. Harned, U. S. Coast Guard, "Search And Rescue Training"; R. Ogg (PAA), "Benefits Of Emergency Procedure Training."

The Annual Forum Banquet will be held Wednesday, March 6, 8 p.m. A prominent aviation personality will be speaker.

Also on the program will be a trip to the Flight Simulator Installation at United Air Lines.

the testing or mock-up stages, have had the benefit of pilot thinking and the various evaluation committees are actively participating in the design and manufacture of the aircraft in this country and abroad. ALPA Evaluation Committees presently active are: Lockheed 1649A, Lockheed Electra, Boeing 707, Douglas DC-8, Convair 880, Fokker F-27, Comet 4-A, Viscount, and Britannia.

First ATC System

The Association was active in establishing the first Air Traffic Control System some 20 years ago. However, obsolescence of that system has now set in and the Association is now working on development of new systems to meet current demands. The ALPA Air Traffic Control Committee was organized in November, 1955. The Fourteenth Convention adopted a set of 12 recommendations aimed at solution of the Air Traffic Control problems, as well as formalizing the specifications that air line pilots felt the system of the future should meet. Considerable activity is underway to implement these recomendations.

Pilot Training

Pilot training, as an aspect of air safety, will become increasingly important with the transition from piston driven to jet aircraft.

The 14th Convention established a committee to formulate "a detailed ground and air training curriculum for all pilots on all types of equipment." Also the Association was asked to "establish or enter into an arrangement with an established and reputable school to provide an indoctrination and home study course on jet propulsion and operation of jet aircraft to be made available to all members on a voluntary basis."

The three panel groups, making up the major portion of the Forum program will deal with these highlight problems and review some of the progress made to date.

The pilots' viewpoint will be brought forth and the discussions with the representatives from all parts of the industry will, it is hoped, help to clarify many problems. A new understanding of the problems should do much to bring about realistic solutions of them.

As U. S. air lines ready for the 550 miles-plus per hour jets, air safety is not merely the pilot's concern—it is the nation's and world's concern. The Fifth ALPA Air Safety Forum should be a valuable contribution to this new era of air transportation.

(EDITOR'S NOTE: *This is the third installment of the* STATE OF THE ASSOCIATION REPORT *submitted by President Sayen at the Fourteenth Convention, highlights of which are being reprinted due to many requests for publication of this information. This installment covers the Publicity and Public Relations, Statistical and Research, Education and Organization, and Legislative Representation Departments. The figures employed are as of October 1, 1956, when the report was written.)*

Publicity And Public Relations

Much of the strength of an association lies in its ability to keep the membership accurately and currently informed. One of the assets of a profession is the favorable light in which it is held by the public and public agencies. ALPA's public relations program and Public Relations Department is designed with these two important objectives in mind. It is based on a two-phase concept of membership information and public education using well-accepted and successful public relations techniques and utilizing all media.

The Association's Publicity and Public Relations are under the direction of Department Head E. C. Modes, who works in cooperation with the officers of the Association to implement the ALPA policies and programs in this field. Mr. Modes is assisted by a staff of three. Other public relations assignments are carried out by various staff members including the Washington Office and selected pilot representatives.

ALPA Publications

Information to the membership is distributed through the *News Bulletin, The Air Line Pilot, Technical Talk For Pilots,* and special bulletins and booklets such as *The ALPA Story, Why You Should Belong To ALPA* and *ALPA's Organization For Safety.*

The ALPA News Bureau

Public information is distributed through News Releases, *The Air Line Pilot,* radio and television programs, special magazine articles and personal press contact.

The ALPA Information Service

This is a service maintained by the Public Relations Department to answer specific requests for information and research data and material for use of students, writers, and others desiring information on ALPA.

The ALPA Membership Information Service

This is a personalized information service for all members maintained by the Public Relations Department to

ALPA's Publicity And Public Relations Department.

State Of The Association

Part 3

supplement and extend communication channels such as the *News Bulletin*.

Public Relations Advisory Service

Publicity and Public Relations are a function of all ALPA staff members. A specialist advises each department in an effort to make all Association publications more interesting and readable.

Councils and air lines have been encouraged to establish their own News Letters with the Home Office providing materials, mechanics, minor editing and advice when requested.

Cooperation with various committees and study groups is part of the Public Relations Department's activities carried out to determine how they can fit into ALPA's public relations program, and, conversely, how ALPA's public relations program can aid them.

Accomplishments

▸ **Press Relations:** There has been a general expansion of activity and scope in ALPA's Public Relations Department. It has been expanded with an additional staff member and secretarial help. This has resulted in a wide expansion of contacts; a general stepping up of the amount of information being made available to the public, and a greater utilization of public relations techniques and media. An indication of the acceptance of ALPA's materials is indicated by the increasing number of clippings received. During the month of January, 1956, this reached a high of more than 1,400. To get this kind of coverage, the Public Relations Department works in close cooperation with all the wire services, daily and home town weeklies, aviation editors and writers, columnists, radio and TV stations. The Department services about 1,000 publications and writers regularly.

▸ **News Letter Program:** Encouragement of the News Letter program has resulted in noticeably better communications at the local level and in areas of information which the Home Office facilities could not, in themselves, provide. Most MEC's publish *MEC News Letters,* while practically all of the larger councils are keeping their members informed via the *Council News Notes.*

▸ **News Bulletin:** *The News Bulletin,* published every two weeks on an ironclad deadline which has never been missed, is utilized to report all major activities of the Association at the national level and considered of interest and importance to the membership at large. It endeavors to provide a running and integrated picture of the Association as a whole, interpret the meaning of activities where necessary, clarify Association policy and programs, and generally provide an outline of long-range plans where necessary. Because of this scope, it is necessarily brief, written in a newsletter style and concentrates on items of the greatest importance and currency.

▸ **"The Air Line Pilot":** *The Air Line Pilot* is published monthly and has become a respected magazine in the industry. Both circulation and average size has increased and editorial content strengthened. Advertising, now averaging about $800 a month, has permitted this. Since 1948, for example, its circulation has doubled and printing costs have increased some 40 per cent, but the cost of *The Air Line Pilot* in 1955, as far as Association cash outlay is concerned, was 50 per cent of what it was in 1948. *The Air Line Pilot* is a professional journal designed to provide information on the pilot's job and profession, his problems and their possible solution, and background on overall ALPA policies and programs. This is accomplished by an editorial formula stressing technical, general interest and "think" articles.

Analysis, Outlook And Plans

Indications are that ALPA's public relations program is showing constant improvement to the maximum possible extent within the budget and facilities of ALPA. We hope to continue improvements in this program by:

▸ Maintaining a long-range, constant build-up type of program to increase the personal and group prestige of the air line pilots as "professional men";

▸ A study and exploration of methods of overcoming communication problems in a public relations program of national and international scope;

▸ Full utilization of public relations talent available in the membership ranks and exploration and development of ways and means to stimulate more satisfactory public relations and news dissemination at the local level;

▸ A program to promote the interest of the mass media and national magazines in constructive air line pilot articles;

▸ Greater news release coverage on more aspects of ALPA activities, particularly on air safety.

Staff

Ed Modes, Department Head; Helmut Lorsch, Administrative Assistant; Secretarial: Dorothy Gramm, and Grace Moody.

Statistical And Research

The Research Department performs the following functions for the Association:

▸ Evaluates and presents information of a statistical and economic nature to assist the officers and staff and pilots of the Association in the accomplishment of their duties and responsibilities.

▸ Keeps available for staff and pilot

ALPA's Statistical And Research Department.

use economic and statistical information necessary for collective bargaining, arbitration, legal proceedings, and so forth.

▸ Assists in collective bargaining whenever necessary.

▸ Prepares evidence and exhibits and appears as witnesses in Association proceedings as necessary.

▸ Maintains historical records.

Research Facilities

The Association maintains a Research Department with two professional people and such other assistance as is necessary. In addition, various other departments of the organization are assigned to research duties as necessary, and the Association is fortunate in having on its staff individuals who are trained and experienced in this field. In addition, utilization is made of independent research organizations as necessary in connection with specific projects. For example, throughout our work in the retirement field, the Association has utilized the firm of Segal and Company who have one of the largest organizations in this field in the country. It is imperative to the functioning of the Association in our modern complex society that adequate, accurate research be constantly conducted to handle current problems and anticipate the future problems.

Current Programs

Because of the complexity of the retirement field, it has been necessary to establish retirement schools for staff and pilot negotiators in order to familiarize them with the essential information necessary for collective bargaining in this field. Such schools are conducted for each negotiating committee.

All personnel of the Research Department are assigned to collective bargaining activities under the theory that facing actual collective bargaining problems will increase the effectiveness of the Department.

At the close of each calendar year, a complete statistical analysis is made of pilot earnings for the year. As a result, the Association now has wage statistics dating from 1952 which present average pilot wages, quartiles and deciles of pilot wages by air line, by pilot status, and by air line classification. This essential information was not available prior to 1952 and such studies must be continued to provide accurate statistical information for many purposes.

Career potential studies are made constantly in order to analyze in detail the trends in negotiations and the net result in terms of the career professional pilot. Such studies are necessary to determine problem areas for further negotiation.

A historical study of the Association's activities in the field of rates of compensation, rules and working conditions for pilots is under preparation for the information of study groups, negotiating committees, and so forth.

The Association is now in the process of completing a study of the relative position of air line pilots of all the member Associations of the International Federation of Air Line Pilots Associations. This information is important to the work of IFALPA as well as ALPA. The International Federation is bringing their work on a similar study up to date.

Some Publications

▸ **Negotiators Handbook**—is an analysis and compilation of all pilot agreements on a comparative basis. This handbook enables staff negotiators and pilot representatives to have a ready reference to all current agreements. It also facilitates the comparison of various sections of agreements.

▸ **Rates of Compensation Handbook**—is a study dealing solely with monthly wages by type of equipment for varying hours flown paid by each air line to pilots and copilots.

▸ **Pension Handbook**—sets forth simplified methods of computation of costs and benefits in the negotiation of retirement programs. This publication is made available to staff members and negotiating committees in order that a common system for the calculation of costs and benefits may be utilized.

Library And Files

A library is being developed by the Association to make available to staff and pilot representatives information relating to labor-management relations, economic developments, and so forth. It is composed of professional journals, periodicals, government publications, of which the following are examples: *Monthly Labor Review, Survey Of Current Business, Harvard Business Review, Journal Of Air Law & Commerce, Industrial & Labor Relations Review, International Labor Review, American Economic Review, Journal Of Aviation Medicine, Fortune,* Dept. of Commerce Releases, Dept. of Labor Releases, C.A.B. Releases, C.A.B. Dockets, Records of Arbitrations, Records of Mergers, Air Line Financial Information, miscellaneous bulletins and reports.

Research

The Research Department provides essential objective information for the use of Standing Committees of the Board of Directors or other groups as needed. Examples of some of the current projects with which the Research Department has been concerned are: The ALPA Turbo-Prop and Jet Study

Committee, ALPA Workmen's Compensation Committee, ALPA Professional Standards Committee, various Pension Committees, Catastrophe Insurance Studies, Historical Wage Studies.

Staff

Research Director William J. MacWilliams, Jr., Paul F. Dwyer; Secretarial: Victoria Catinella.

Education And Organization

The Association established an Education and Organization Department in August, 1946:

- To help other air line employees form their own representing organizations.
- To perform educational functions for the Air Line Pilots Association.
- To assure the stability of representation of air line employees within the air line industry.

Accomplishments

Following is a list of ALPA affiliates and their current status:

Association	Air Lines Represented	Employees Represented
ALSSA	Alaska Allegheny American Braniff California-Eastern Capital Caribbean-Atlantic (Colonial—merged with EAL, June 1, 1956) Continental Eastern Flying Tiger Frontier Hawaiian Lake Central Mohawk National North Central Northeast Northwest Ozark Pacific Northern Southwest Trans World Trans-Texas Trans-Pacific United Western West Coast	7,500

Status:

Maintains own staff, performs own functions, pays own expenses, uses ALPA staff assistance on a cost basis.

ALAA	Caribbean-Atlantic Flying Tiger National North Central Northwest Southwest Trans-Texas United West Coast	2,500

Status:

Acting Officers, Administered by E & O.

ACMA	Braniff Caribbean-Atlantic Central Mohawk Pacific Northern Riddle Southern	1,750

Status:

Acting Officers, Administered by E & O.

ACCOA	Caribbean-Atlantic Trans World	510

Status:

Acting Officers, Administered by E & O.

ACFEA	Western	50

Status:

Acting Officers, Administered by E & O.

SOALM	Continental Northwest United	100

Status:

Maintains own staff, performs own functions, pays own expenses, uses ALPA Negotiators occasionally on a cost basis.

Associated Motion Picture Pilots

Status:

Maintains own staff, performs own functions, pays own expenses.

Method

When a group of air line employees consisting of craft or class under the Railway Labor Act indicates a desire to form their own representing organization and expresses that desire to the Association, ALPA staff members assist these individuals in forming their own organization. Such an organization is established as an affiliate of the Air Line Pilots Association. When the organization reaches a point where it is in a position to assume control of its own financial and administrative operations, a convention is called in accordance with the By-Laws of the affiliate and officers are elected from the ranks of the membership. In some instances ALPA's Education and Organization Department continues to aid in the administration of the affairs of the affiliate, if it is requested to do so.

During the past year the number of air line employees represented by affiliates of ALPA increased by approximately 1,000 members.

Staff

Victor J. Herbert, Department Head; William A. Schneider, Pat Cain. Secretarial and Clerical: Catherine Sullivan, Rosemarie Behm, Venita Foster, Gladys Wragg, Rose Konichek, and Joan Hill.

Legislative Representation

The effective implementation of the policies of the Association require representation in the political and legislative field. This program is carried out by a coordinated program between the Officers of the Association, the staff, and pilot representatives in various localities and on special projects. While such activity is necessary on an international and national scale, a considerable portion centers in Washington, D. C., where ALPA maintains an office and personnel. Our representation in this area is generally concerned with:

- Keeping the Association officers, staff and pilot representatives currently informed on the state of all activity of federal agencies and legislation affecting the piloting profession.
- Coordinating Association activities with the Federal agencies concerned with aviation and labor problems.

(Continued on Page 22)

ALPA's Education And Organization Department.

Air Line Pilots And The Geophysical Year

Air Line Pilots Can Cooperate In This Scientific Venture By Observations

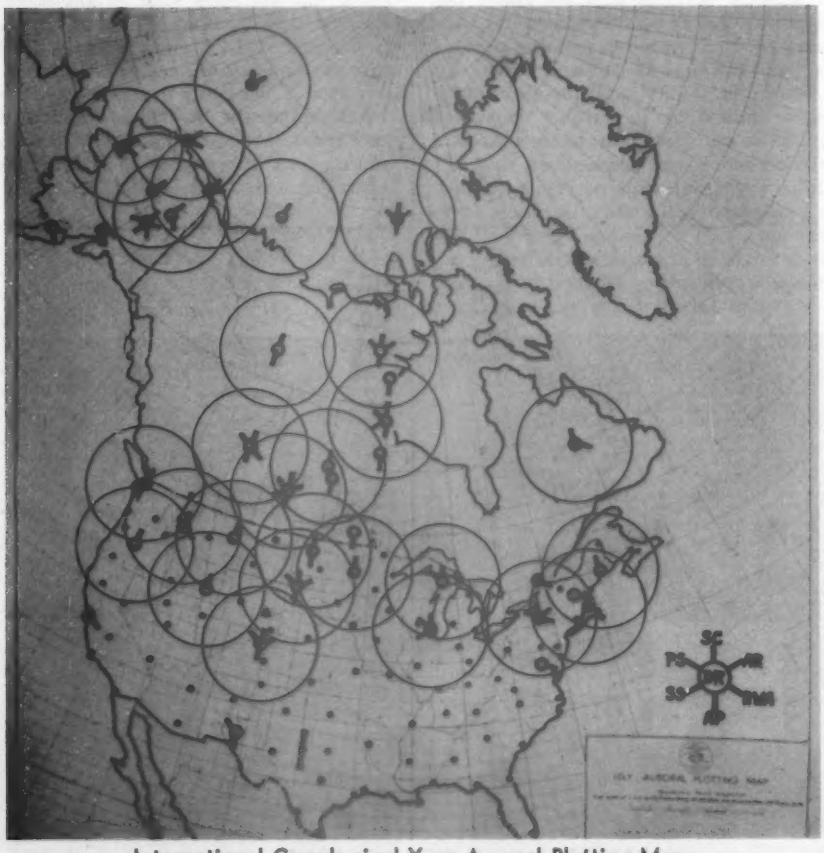
By C. W. Gartlein

Coordinator Of Visual Observation for the U. S. A.

The International Geophysical Year, July 1, 1957, to January 1, 1959, is a continuation of the cooperative study of geophysical problems begun in the first and second International Polar Years, 1882 and 1932. This geophysical year is on a wider and more intensive scale than the earlier efforts. Simultaneous observations of solar and terrestrial phenomena will be made by over 40 nations from all the continents. Eleven fields of activity comprise the program: meteorology, latitude and longitude determinations, geomagnetism, gravity measurements, ionspheric physics, aurora and airglow, solar activity, cosmic rays, glaciology, oceanography, satellite and rocket exploration of the upper atmosphere.

Air line pilots can give uniquely valuable assistance in at least one of these programs, the study of the aurora. An extensive study of this phenomenon is planned not only because of the large gaps in our knowledge but because of its close relation to ionspheric disturbances, polar radio blackouts, magnetic field disturbances and possibly to weather changes.

The aurora is visible only at night in a variety of forms, arcs, rays, pulsating forms and flames. It is caused by bombardment of the earth's atmosphere by particles emitted from disturbed regions on the run. The resulting light (aurora) is so weak that some of its aspects cannot be photographed. Thus visual observations are needed.



International Geophysical Year Auroral Plotting Map.

The aurora extends over such a wide territory that cooperative, continuous international observation is needed to obtain data even of its simpler aspects. The best planned observations from the ground will be set at naught by cloudiness about 30% of the time and the widespread synoptic map of the aurora we need will not be obtained. Therefore we appeal to air line pilots to send us observations whenever they fly over large cloudy areas or over the ocean.

The programs of other nations differ in detail but not in essence from the integrated North American program which consists of the following:

North American Program

Twenty-nine All-Sky cameras will photograph the sky at one-minute intervals giving details of the aurora within 200 miles of the station. Twelve spectrographs will photograph the auroral spectrum of the sky along the meridians. A group of U. S. Weather Bureau stations and many volunteer observers will give reports on what they see and the positions they measure with simple instruments. The data from the programs will be combined to draw synoptic maps showing the overhead location of aurora from hour to hour.

A chain of aurora radar stations extending north-south through Alaska, as well as other isolated installations, are being installed to find the relation between visible aurora and the location ionization reflecting high frequency signals.

Scanning spectrometers and radio wave absorption measurements will give finer details on the disturbance. A chain of photometric stations will study the faint glow visible only on nights of no aurora. The faint glow seems to occur in patches in certain latitudes and shows evidence of motion and thermal reaction in the upper atmosphere. It is obvious how damaging the usual extent of cloudiness can be to much of the above program.

Some features of the aurora, arcs and bands, appear to be thousands of miles long, so we must have observation in spite of the clouds, if we are to determine their true extent and location. Observations of limited precision, requiring only a few moments, are sufficient to do this. We therefore appeal for your assistance.

Reporting forms, prepaid envelopes and instructions will be supplied.

Interested persons may write to the: Auroral Data Center, IGY, Rockefeller Hall, Ithaca, New York.

The Reorganization Of The Civil Aeronautics Board

Three-Way Reorganization To Effect Safety And Economics

Chairman James R. Durfee of the Civil Aeronautics Board announced recently that in order to more efficiently meet the overall economic and safety regulatory supervision of the United States air carrier industry, the Board has decided on a major, three-way reorganization of Board operations:

- On the recommendation of the Executive Director, that office is abolished and its functions transferred to the Office of the Chairman.
- The safety activities of the Board are being consolidated by merging the Bureau of Safety Regulation and the Bureau of Safety Investigation into an overall Bureau of Safety.
- The Board also revamped its Bureau of Air Operations, increasing emphasis on international operations, by creating two new posts of Associate Director (International) and Associate Director (Domestic).

Explains Significance

The Chairman emphasized the significance of the reorganization by stating that no industry in modern times has increased in economic or technical size, or more closely affected the American economy, than that of air transportation. The Board pointed out that in 1956 more than 45 million passengers were transported by United States air carriers with an outstanding safety record of less than one passenger fatality per one hundred million passenger miles flown, and that the invested capital worth and assets of this great transportation utility now approach 1.3 billion dollars.

In its first reorganization move the Board abolished the Office of Executive Director of the Board and transferred its functions to the Legal Adviser and Assistant to the Chairman, Robert L. Kunzig. In delegating these responsibilities to the Chairman's Assistant, it redesignated that position as Executive Assistant and Legal Adviser to the Chairman.

In the field of safety, a function of the Board which has attained increasingly important stature with the growth of air transportation, the Board has decided to combine its separate bureaus of Safety Regulation and Safety Investigation into one overall Bureau of Safety. The new bureau is to be headed by Oscar Bakke, present director of the Bureau of Safety Regulation.

Two New Positions

Two new positions in the Bureau of Safety—Associate Director (Regulations) and Associate Director (Investigation)—were also created by the Board to bring these two functions closer together and achieve a better understanding of all safety problems.

Because international activities have increased tremendously in the past decade of air transportation, the Board decided to strengthen this area of its operations by creating a new position under the Director of the Bureau of Air Operations to be known as Associate Director (International) to handle these complex responsibilities in connection with United States flag air carriers, foreign air carriers, and negotiation of international air agreements.

The Board announced that Raymond Sawyer, Executive Director of the Board, had, therefore, been appointed to fill this position in order

Book Review

THUNDER ABOVE

By Capt. Charles F. Blair, Jr. (PAA) and A. J. Wallis
Henry Holt & Company, $3.50

Here is an authentic, suspenseful piece of airborne fiction with the aviation flavor and authenticity that only a pilot, familiar with his subject, could give it. It is co-authored by James Wallis, a PAA public relations man and newspaper correspondent stationed in Germany from 1950 to 1954 and Charlie Blair, a PAA pilot.

Charlie Blair is well-known to many pilots. He is an air line pilot with 5,000,000 miles behind him, a veteran of some 700 Atlantic crossings in aircraft ranging from flying boats to jet fighters. He is also an Air Force Consultant and a Colonel in the Air Force Reserve. He was awarded the Harmon International Trophy in 1951 for what was cited as the outstanding flying achievement in that year—a transpolar flight in an F-51 fighter from Norway to Fairbanks, Alaska, involving the development of a navigational technique for fighter aircraft.

Over The Corridor

The story itself all began on a routine flight over the Berlin Corridor. Captain Kyle was checking out a new pilot when two Red jets appeared, one at either wingtip, and put a burst of gunfire over the nose of the DC-4. The jets led Kyle down to and airfield outside the Corridor —inside the Russian Zone.

The pilots were questioned, threatened, and imprisoned. Finally the American authorities arranged for their release, but Kyle was worried about two others who had been on the plane—Zimmerman, the famous scientist, and the stewardess, Karin, an East German escapee and the girl he loved.

Kyle was determined to rescue Karin, but he found every official channel closed. Through the Underground he managed to re-enter the Russian Zone. In Leipzig he found where Karin was being held, and providentially, the June Revolt created the cover he needed to free her and to begin a dash for the border.

Post-War German Scene

Then, set against the ruins of post-war Germany, followed one of the most hair-raising chases in recent fiction. One moment Kyle and Karin were a jump ahead of the police, the next moment they were staring down the muzzles of their pursuers' guns. They fled on foot and by motorcycle, smuggled from one point to the next by farmers and factory hands, until finally they caught a freight bound for Berlin—East Berlin. It is in East Berlin as they key their flagging resources to a last effort to reach the Western Sector, that this headlong novel moves into its breathless climax.

Comments: *Thunder Above* is now on sale in all book stores. For entertainment that will interest air line pilots and others in the industry, it is well worth the time it will take to pick up and the nominal price for which it is selling.

to carry out the new and expanded operations.

Domestic Chief Named

At the same time the Board created a new position of Associate Director (Domestic) to concentrate solely on the problems and operations of the domestic air carrier system. The Board approved the appointment of Irving Roth, Chief of the Rates Division, to this new post. The position of Associate Director, formerly held by R. Vernon Radcliffe, who recently resigned to accept a position with Trans World Airlines, would be abolished.

The title of the Secretary of the Board was changed to Secretary and Comptroller, without changing the duties of that office. Personnel appointments to fill additional vacancies arising from the reorganization would be announced subsequently, the Board concluded.

Tomorrow's ATC . . .

(Continued from Page 3)

of the numbers and types of aircraft they must plan to handle during the next twenty years and the same general pattern will apply to other similar locations as well. These figures, however, must be kept up to date and revised from time to time in more detail than the Civil Aeronautics Administration has been accustomed to do. On the technical operating side, the airport operators must look to the Federal government for development work on optimum airport layouts including such things as parallel runways, high speed turn-offs and the relationship of one airport to another in the same area. They should also know from some central authoritative source what maximum runway acceptance rate they should aim to provide.

Obviously, this task of modernizing our present facilities and keeping them abreast of increasing requirements is going to be expensive in terms of money and manpower. There can be no doubt, I think, that the job must be done if America is to stay ahead in the air, but there are real questions about the cost in relation to our total economy and to an equitable distribution of these costs between government agencies at all levels and the users of the facilities. So far as the requirements for national defense are concerned, whether they be purely military or involve the military use of a common system, these are clearly a responsibility of the Federal government and the taxpayers. In the commercial and general aviation fields, however, the picture becomes much more complicated. Needless to say, it is not my purpose here to try to spell out any precise solution, but only to highlight a few points which must be considered. The airway system including traffic control, navigational aids and the communications which link them together are national in scope and must, it seems to me, be a responsibility of the Federal government and installed and operated by the appropriate Federal agency.

Sources For Funds

It seems only fair, however, that a portion at least of the cost of operating these facilities should be borne by the users of them. These user charges should bear some relation to the type and extent of service received and to ability to pay. The present Federal aviation gasoline tax of 2 cents per gallon is a step in this direction, but additional revenue of this type should be given consideration. Funds for the construction and improvement of local airports which primarily benefit the communities concerned should continue to be largely obtained by States and municipalities with appropriate user charges and other revenue contributing toward their support. The extent and conditions under which Federal funds should be made available to assist in local airport development needs further continuing study.

State Of The Association . . .

(Continued from Page 19)

▶ Arranging Association representation on projects in which the pilot interest is concerned.

Projects

The following is a list of some of the more important legislative activities since the last Convention in 1954.

ALPA's Legislative Representation.

We were active in connection with the passage of the following legislation:

- Permanent Certification of Local Service Carriers (continental U. S. A. Public Law 38, 84th Congress-1st).
- Federal Airport Assistance (Public Law 211, 84th Congress-1st).
- Aircraft Anti-Sabotage (Public Law 492, 84th Congress-2nd).
- Permanent Certification for air lines in Hawaii and Alaska (Public Law 741, 84th Congress-2nd).
- Extension of the Prototype Aircraft Act (reported out of Committee July 19, 1956).
- Increased appropriations for air traffic control.
- H.R. 8000 to prohibit service of alcoholic beverages aboard aircraft was passed by the House of Representatives but did not come to a vote in the Senate. Valuable spadework was accomplished for the next Congress.

In addition to the foregoing, we actively participated in sessions before legislative committees on the following type problems:

- Extensive hearings relative to the Omnibus Aviation Bill designed to amend the Civil Aeronautics Act of 1938 to restore the independent Air Safety Board and other items some of which ALPA opposes and some favorable to pilots.
- Legislation to certify cabin attendants.
- Appropriations problems relative to the proper development of air traffic control and navigational facilities.
- Extensive testimony favoring Federal Control of Airspace.
- Participated in hearings and pro-

vided supplemental data relative to air safety problems, air traffic control problems, and urged organizational changes to assist in their solution.

A considerable part of our efforts were also directed toward the federal regulatory bodies on behalf of the membership.

- Testimony before the Civil Aeronautics Board to assure employee protective provisions in all mergers.
- Testimony before the Civil Aeronautics Board designed to procure a yardstick for realistic scheduling. This included extensive work with the staff in order to acquaint them with the problem.
- Numerous appearances before CAA officials on pilot licensing problems, Civil Air Regulation interpretation and amendments, and air safety regulations.
- Activity in coordinating ALPA representatives' activities in connection with technical matters such as accident investigation, Annual Airworthiness Review, etc.
- In the field of the Railway Labor Act, we work constantly with the National Mediation Board.
- Participation in the activities of the office of Mr. Edward P. Curtis, Special Assistant to the President for Aviation Facilities Planning.
- Active in connection with litigation to insure the federal control of airspace as opposed to state or municipal control (Cedarhurst case).

Adequate representation in the legislative and political field requires maintaining a system by which the Association is kept informed of all developments which may affect pilots or the aviation industry and coordinating the personnel and resources of the Association in order to process each individual project. Legislative and political problems must be attacked in the same manner as other representing problems and require a coordinated effort by many people.

We have found that the most effective representative of the air line pilot in this field is the pilots themselves who are properly briefed and informed on the particular subject under consideration. Therefore, an increasing amount of the Washington representation has been oriented on a project basis utilizing the Association's professional staff as coordinators and pilot representatives who have specialized in the various fields, such as air traffic control, accident investigation, and so forth, as the spokesmen. As the demands in this field have increased, a larger portion of our budget has been devoted to these functions. The staff of the Washington office has recently been increased by the addition of another professional representative to work in the air safety and engineering field. It may be necessary for further additions as the Association and the aviation industry expand.

Staff

Larry Cates, Washington Representative; Thomas Basnight, Engineering and Air Safety Representative; Secretarial: Patricia Gray.

(Continued in next issue)

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AT-6C's
LOCATED: Sky Harbor Airport
PHOENIX, ARIZONA
$1250 TO $2200
For Additional Information
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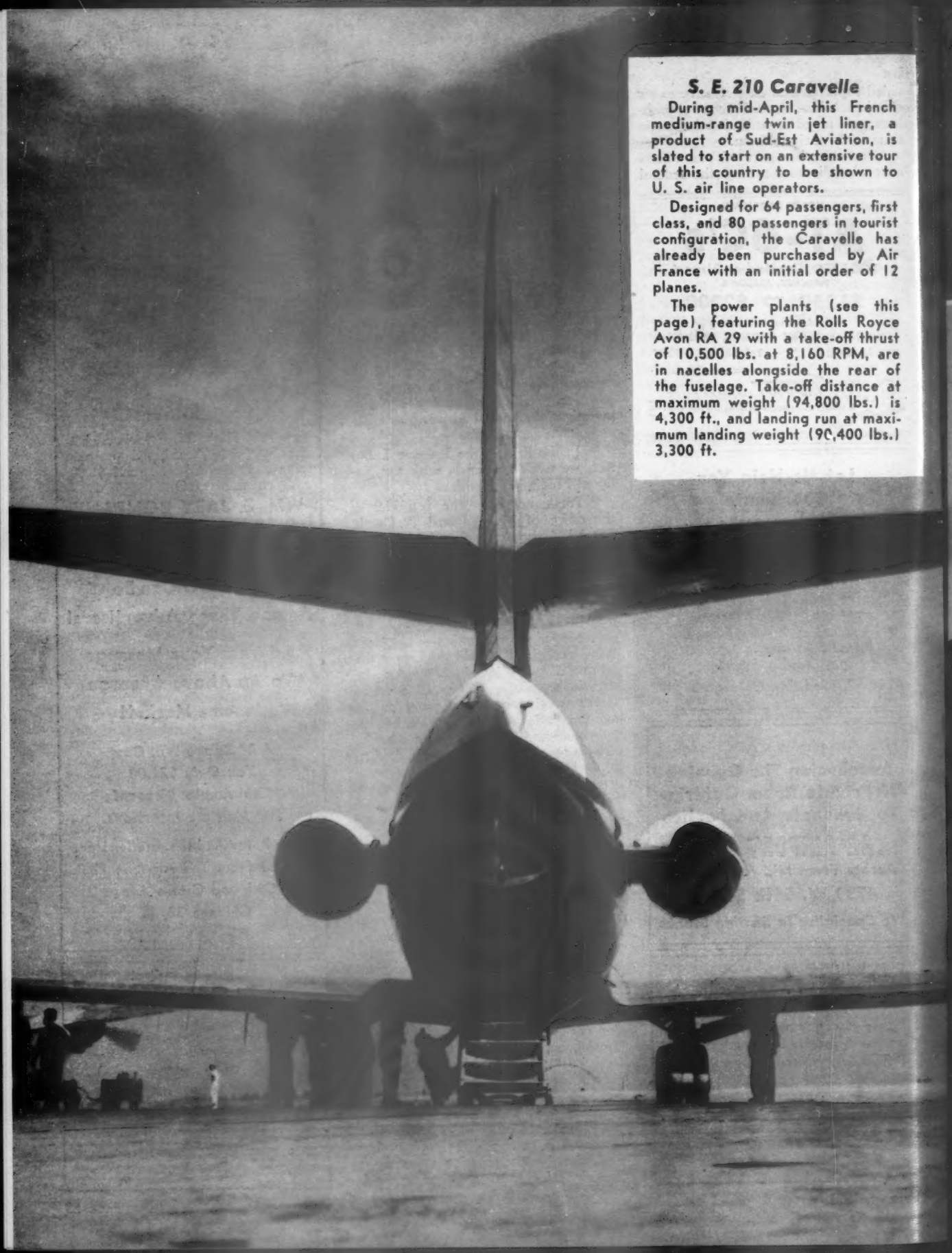

S. E. 210 Caravelle

During mid-April, this French medium-range twin jet liner, a product of Sud-Est Aviation, is slated to start on an extensive tour of this country to be shown to U. S. air line operators.

Designed for 64 passengers, first class, and 80 passengers in tourist configuration, the Caravelle has already been purchased by Air France with an initial order of 12 planes.

The power plants (see this page), featuring the Rolls Royce Avon RA 29 with a take-off thrust of 10,500 lbs. at 8,160 RPM, are in nacelles alongside the rear of the fuselage. Take-off distance at maximum weight (94,800 lbs.) is 4,300 ft., and landing run at maximum landing weight (90,400 lbs.) 3,300 ft.